(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 14 April 2005 (14.04.2005)

PCT

(10) International Publication Number WO 2005/033694 A2

- (51) International Patent Classification⁷: G01N 31/00, A01N 43/00, A61K 31/70, C07H 21/02, 21/04, 21/00
- (21) International Application Number:

PCT/BE2004/000142

- (22) International Filing Date: 6 October 2004 (06.10.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/508,959

6 October 2003 (06.10.2003)

- (71) Applicant (for all designated States except US): UNI-VERSITEIT GENT [BE/BE]; Sint-Pietersnieuwstraat 25, B-9000 Gent (BE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): VERBRUGGEN, August [BE/BE]; Zanddtraat 12, B-9810 Nazareth (BE). ELEWAUT, Dirk [BE/BE]; Victor Laureinstraat 21, B-9052 Gent (BE). WAN, Jun [CN/BE]; Brouwersstraat 105, B-3000 Leuven (BE).
- (74) Agents: BIRD, William, E. et al.; Bird Goen & Co., Klein Dalenstraat 42A, B-3020 Winksele (BE).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

of inventorship (Rule 4.17(iv)) for US only

Published:

without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: NOVEL ANTISENSE OLIGOMERS AND USE THEREOF

(57) Abstract: The invention relates to the use of a novel type of antisense oligomers for use in the in vitro or in vivo inhibition of gene expression of a target gene. These oligomers, called exon-bridging oligomers are complementary to those parts of a spliced mRNA which are derived from two adjacent exons in the primary RNA transcript, and are called exon-bridging antisense oligomers. These oligomers have no complimentarity to genomic DNA. These oligomers can be used to performs antisense inhibition with less aspecific binding to genomic DNA. The exon-bridging oligomers are suitable for inhibiting Interleukin1 type I Receptor in, for instance, chondrocytes, and are suitable for the prevention or treatment of osteoarthritis.



